

FIG. 1

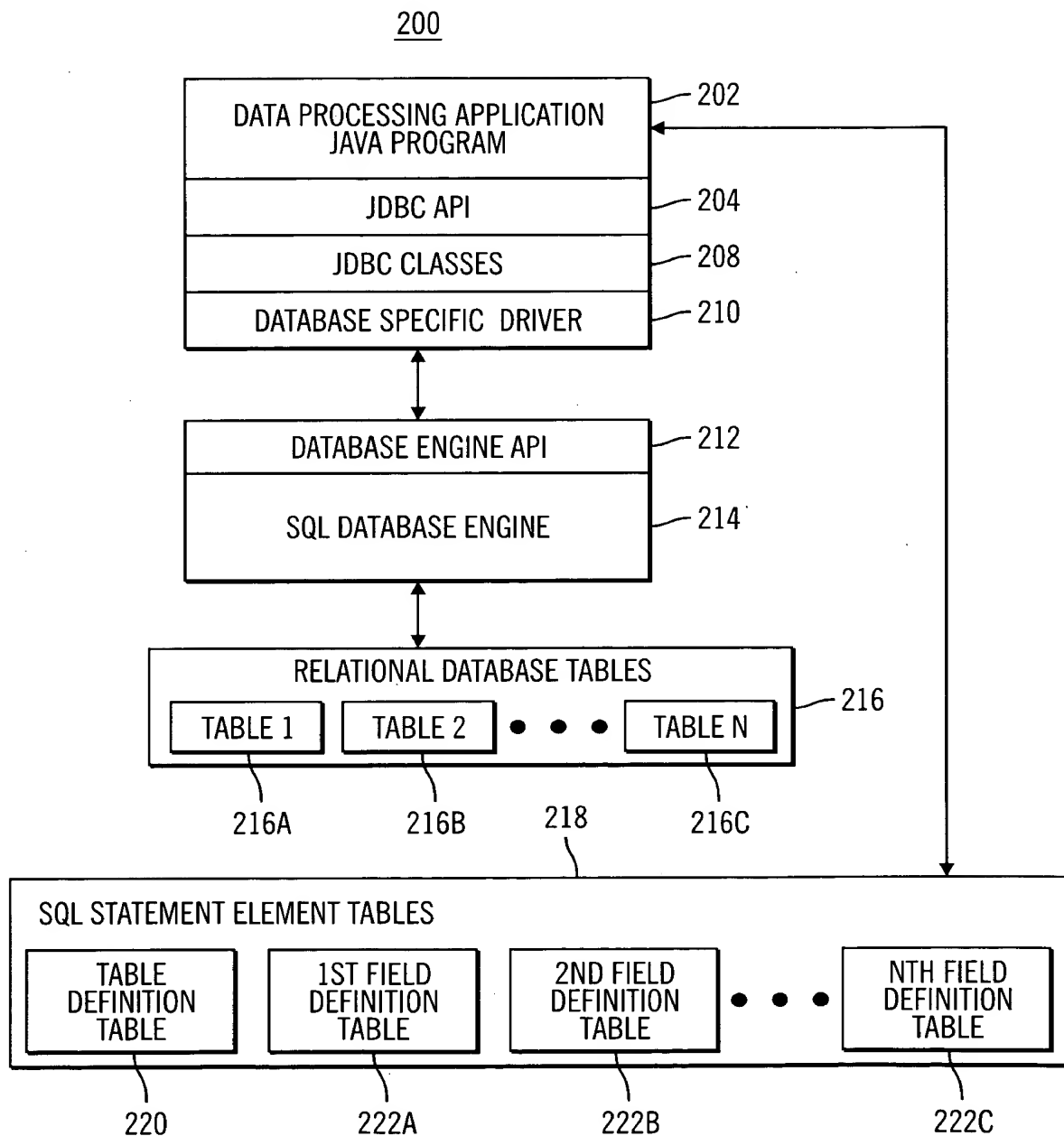


FIG. 2

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EXAMPLE TABLE DEFINITION TABLE

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EXPANDS 220

TARGET TABLENAME UTABLENAME ITABLENAME	QUERY TABLENAME QTABLENAME	QUERY SEARCH CLAUSE QSEARCH	TARGET ACTION ACTION	FIELDDEF TABLENAME FTABLENAME	TABLE SEQ # TABSEQ
OPERSTAT	TEMPSTAT		INSERT	OPERSTATTAB	1
UNITSTAT	OPERSTAT		UPDATE/INSERT	UNITSTATTAB	2
COMPLEXSTAT	UNITSTAT	COMPLEX ID=1	UPDATE	COMPLEXTAB	3
COMPLEXSTAT	UNITSTAT	COMPLEX ID=2	UPDATE	COMPLEXTAB	3

FIG. 3

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# EXAMPLE FIELD DEFINITION TABLES

FIELD DEFINITION TABLE: OPERSTAT

400 EXPANDS 222A

402	404	406	408	410	412	414	416	418
TARGET FIELD NAME TFIELD	QUERY SELECT CLAUSE SCLAUSE	QUERY GROUPBY CLAUSE GCLAUSE	UPDATE SET CLAUSE UCLAUSE	UPDATE WHERE CLAUSE WCLAUSE	INSERT FIELD CLAUSE ICLAUSE	FIELD JAVA TYPE JTYPE	SELECT FIELD SEQ # SFLD SEQ	TARGET FIELD SEQ# TFLDSEQ
COMPLEX	COMPLEX				COMPLEX	STRING	1	1
UNIT	UNIT				UNIT	STRING	2	2
OPER	OPER				OPER	STRING	3	3
SHIFTS	SHIFTS				SHIFT	INT	4	4
CALLS	OPER				CALLS	INT	5	5
WRKTIME	WRKTIME				WRK TIME	INT	6	6

FIG. 4A

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FIELD DEFINITION TABLE: UNITSTATTAB

420 EXPANDS 222B

422	424	426	428	430	432	434	436	438
TARGET FIELD NAME TFIELD	QUERY SELECT CLAUSE SCLAUSE	QUERY GROUPBY CLAUSE GCLAUSE	UPDATE SET CLAUSE UCLAUSE	UPDATE WHERE CLAUSE WCLAUSE	INSERT FIELD CLAUSE ICCLAUSE	FIELD JAVA TYPE JTYPE	SELECT FIELD SEQ #SFLD SEQ	TARGET FIELD SEQ # TFLDSEQ
COMPLEX	COMPLEX	COMPLEX		COMPLEX = ?	COMPLEX	STRING	1	1
UNIT	UNIT	UNIT		UNIT = ?	UNIT	STRING	2	2
CALLS	SUM(CALLS)		CALLS = ?		CALLS	INT	3	3
WRK TIME	SUM(WRKTIME)		WRKTIME = ?		WRKTIME	INT	4	4
CUMCALLS			CUMCALLS = CUMCALLS + ?		CUMCALLS	INT	3	5
CUMWRKTIME			CUMWRKTIME = CUMWRKTIME + ?		CUMWRKTIME	INT	4	6

FIELD DEFINITION TABLE: COMPLEXSTATTAB

440 EXPANDS 222C

442	444	446	448	450	452	454	456	458
TARGET FIELD NAME TFIELD	QUERY SELECT CLAUSE SCLAUSE	QUERY GROUPBY CLAUSE GCLAUSE	UPDATE SET CLAUSE UCLAUSE	UPDATE WHERE CLAUSE WCLAUSE	INSERT FIELD CLAUSE ICCLAUSE	FIELD JAVA TYPE JTYPE	SELECT FIELD SEQ #SFLD SEQ	TARGET FIELD SEQ # TFLDSEQ
COMPLEX	COMPLEX			COMPLEX = ?		STRING	1	1
CALLS	SUM(CALLS)		CALLS = CALLS + ?			INT	2	2
HRSWORK	SUM(WRKTIME)		HRSWORK = HRSWORK + ?			INT	3	3

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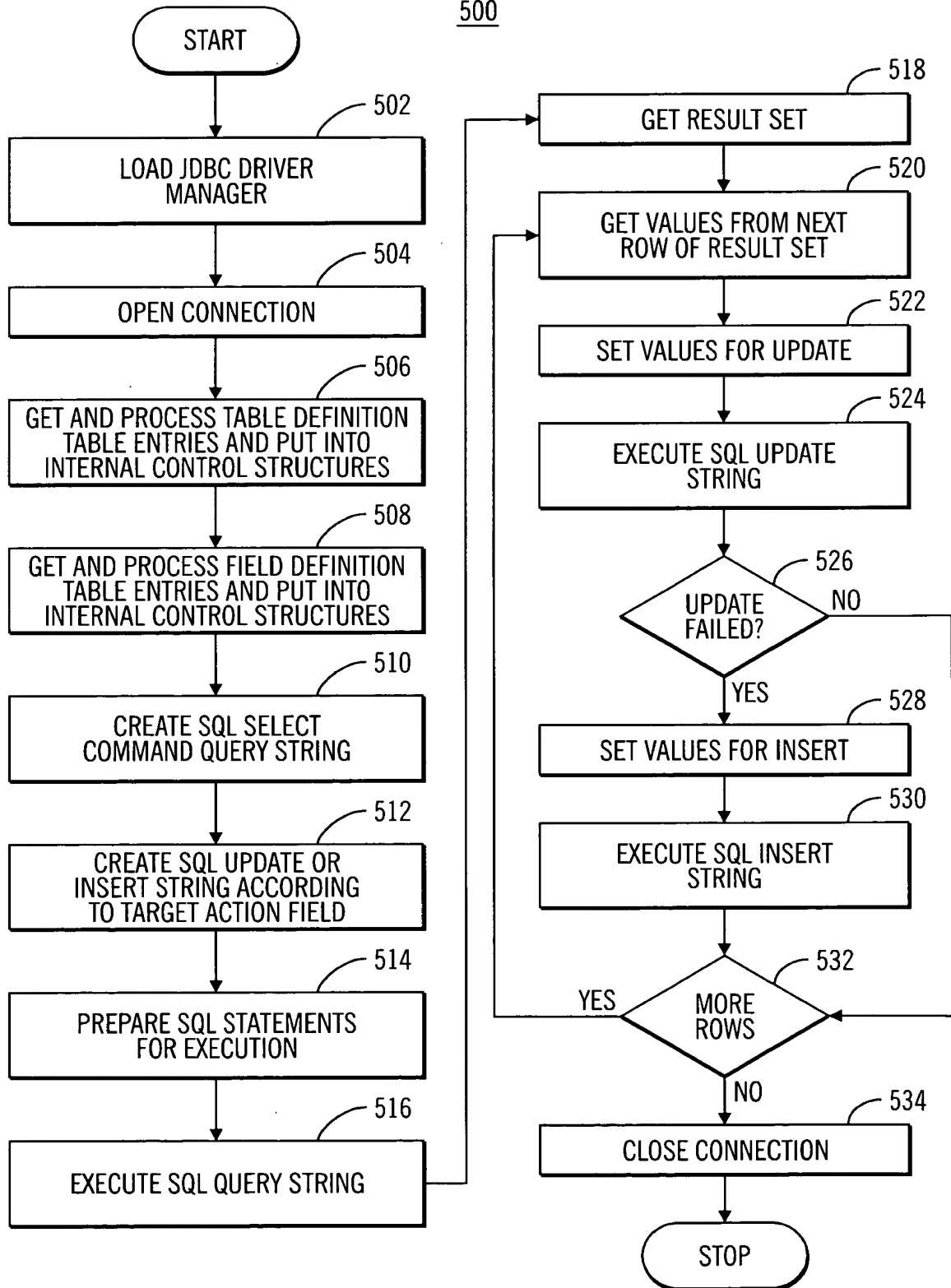


FIG. 5

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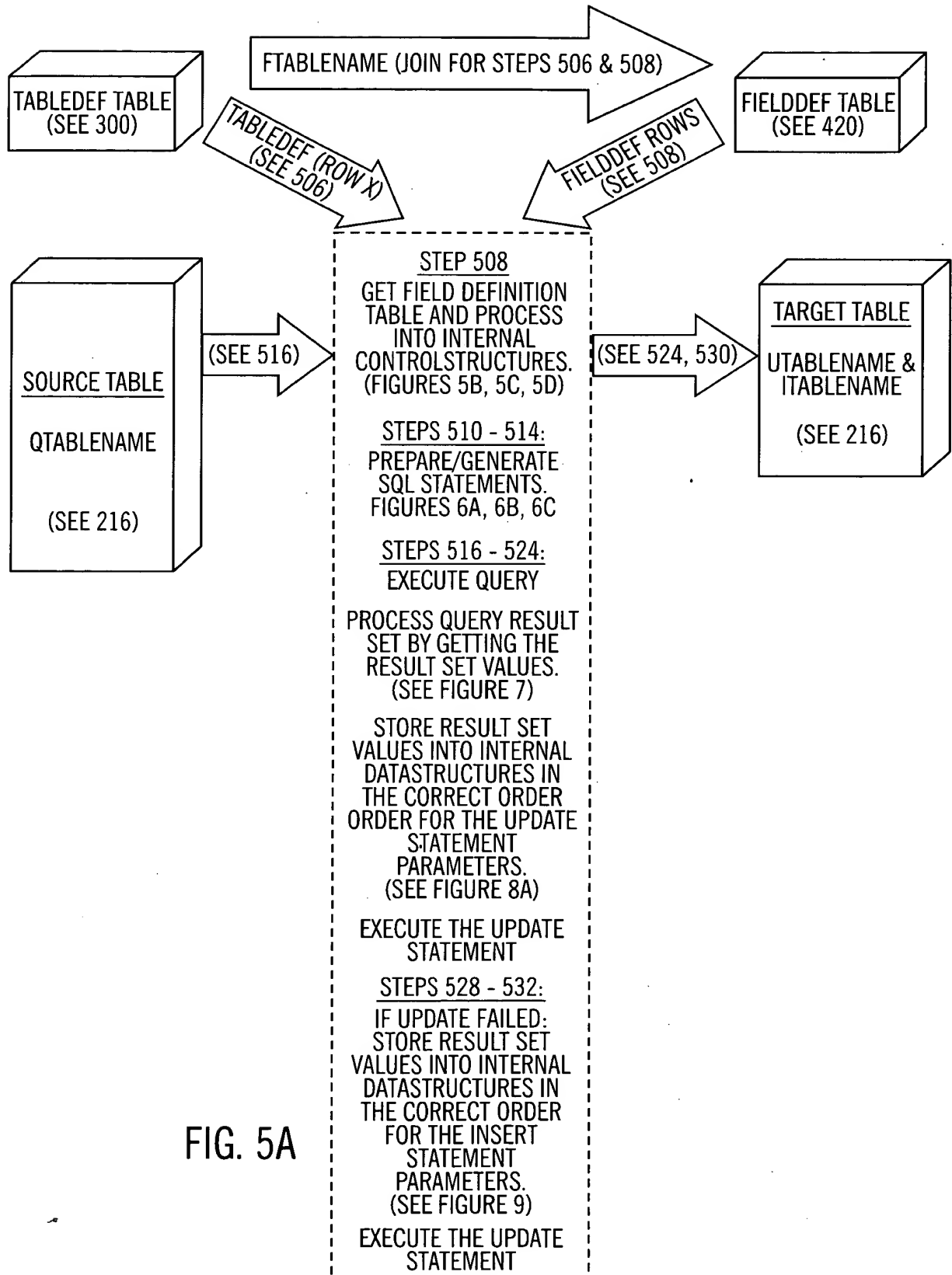


FIG. 5A

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Select SCLAUSE, JTYPE, SFLDSEQ FROM UnitStatTab WHERE SCLAUSE is NOT NULL ORDER BY SFLDSEQ

```

i=1
While not end of resultset
{
  // Get values from next row of resultset
  SClause[i] = GetString [1]           // get SCLAUSE
  SJType[i] = GetString [2]           // get JTYPE
  SFldSeq[i] = GetInt [3]             // get SFldSeq
  i++
}
Ssize = i--:
  
```

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FIG. 5B1

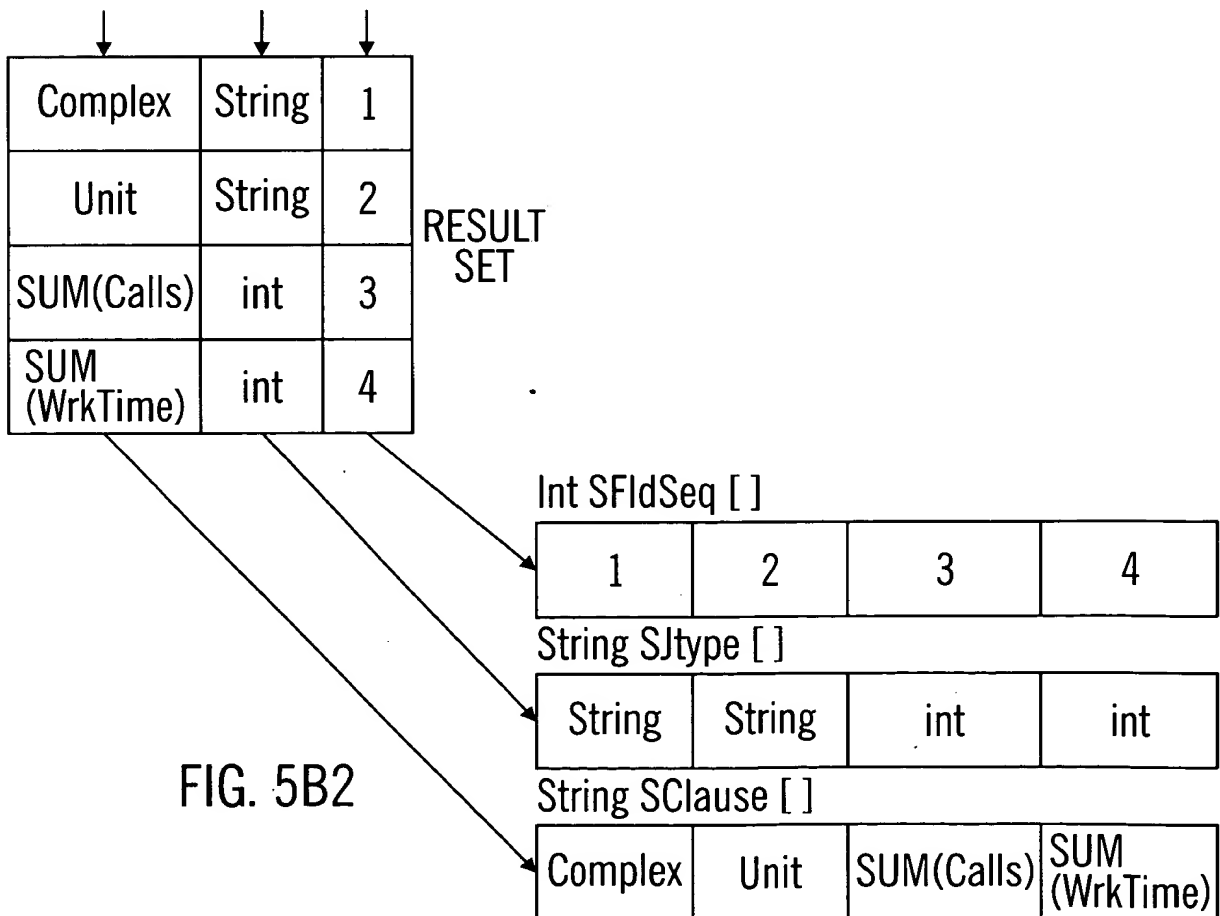


FIG. 5B2



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556  
Select GCLAUSE, SFLDSEQ FROM UnitStatTab WHERE GCLAUSE is  
NOT NULL ORDER BY SFLDSEQ

```
i=1
While not end of resultset
{
  // Get values from next row of resultset
  GClause[i] = GetString [i]           // get GCLAUSE 557
  i++
}
Gsize = i--:
```

FIG. 5B3

SELECT GCLAUSE, SFLDSEQ FROM UnitStatTab WHERE GCLAUSE is  
NOT NULL ORDER BY SFLDSEQ

Complex	1
Unit	2

RESULT SET

FIG. 5B4

String GClause [ ]

Complex	Unit
---------	------

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SELECT UCLAUSE, JTYPE, SFLDSEQ, TFLDSEQ FROM UnitStatTab WHERE  
UCLAUSE is NOT NULL ORDER BY TFLDSEQ

```

i=1
While not end of resultset
{
  // Get values from next row of resultset
  UClause[i] = GetString [1]           // get UCLAUSE
  UJType[i] = GetString [2]           // get JTYPE
  USFldSeq[i] = GetInt [3]             // get SFldSeq
  UFldseq[i] = i                       // reset sequence
  i++
}
Usize = i--:
  
```

FIG. 5C1

SELECT UCLAUSE, JTYPE, SFLDSEQ, TFLDSEQ FROM UnitStatTab WHERE UCLAUSE  
is NOT NULL ORDER BY TFLDSEQ

Calls=?	int	3	3
WrkTime=?	int	4	4
CumCalls= CumCalls+?	int	3	5
CumWrkTime= CumWrkTime+?	int	4	6

RESULT  
SET

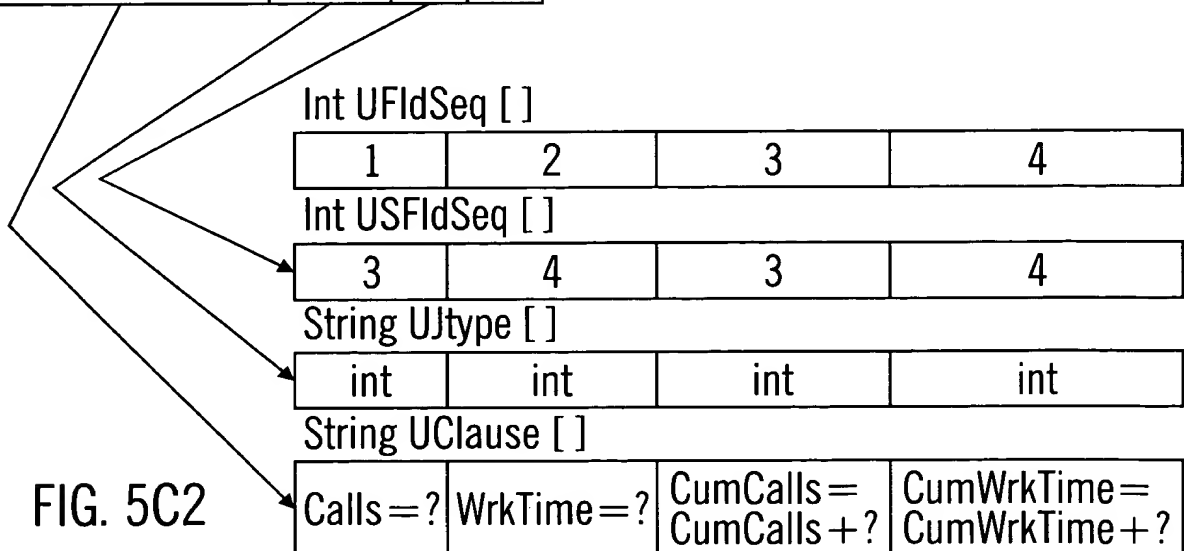


FIG. 5C2

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SELECT WCLAUSE, SFLDSEQ, TFLDSEQ FROM UnitStatTab WHERE  
WCLAUSE is NOT NULL ORDER BY TFLDSEQ

```

i=1
While not end of resultset
{
  // Get values from next row of resultset
  WClause[i] = GetString [1]           // get WCLAUSE
  WJType[i] = GetString [2]           // get JTYPE
  WSFldSeq[i] = GetInt [3]             // get SFldSeq
  WFldseq[i] = Usize + i               // reset sequence
  i++
}
Wsize = i--:
  
```

FIG. 5C3

SELECT WCLAUSE, SFLDSEQ, TFLDSEQ FROM UnitStatTab WHERE WCLAUSE is  
NOT NULL ORDER BY TFLDSEQ

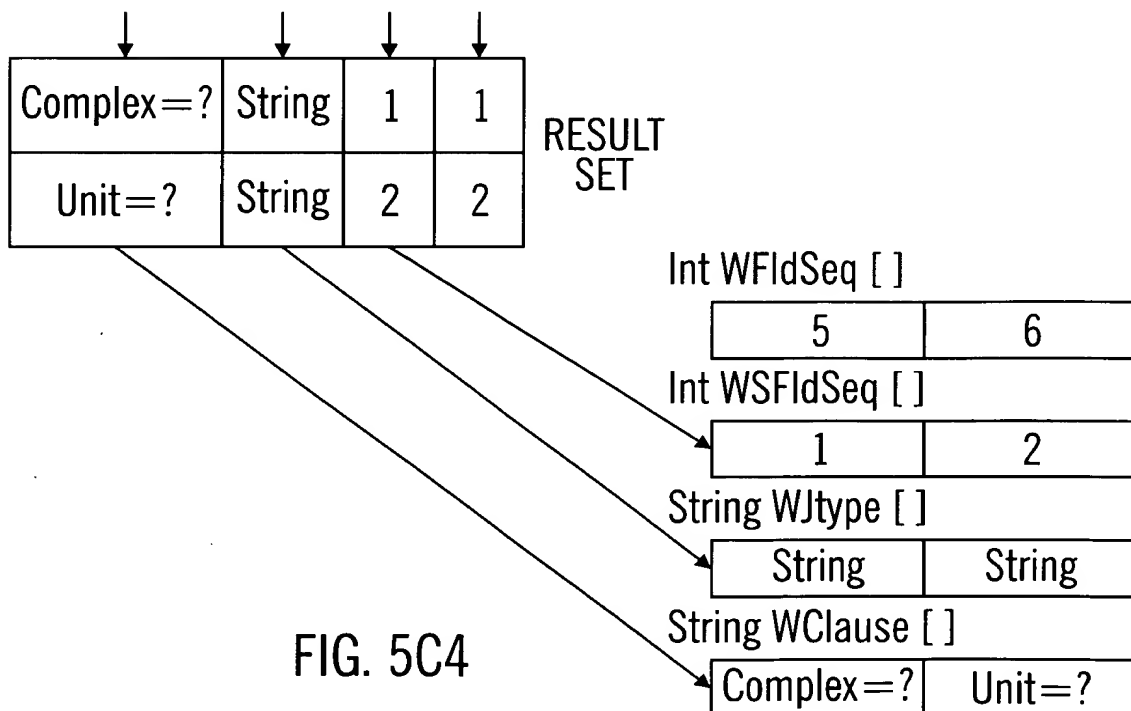


FIG. 5C4

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SELECT ICLAUSE, JTYPE, SFLDSEQ, TFLDSEQ FROM UnitStatTab WHERE  
ICLAUSE is NOT NULL ORDER BY TFLDSEQ

```

i=1
While not end of resultset
{
  // Get values from next row of resultset
  IClause[i] = GetString [1]           // get ICLAUSE
  JType[i] = GetString [2]           // get JTYPE
  ISFldSeq[i] = GetInt [3]            // get SFldSeq
  IFldSeq[i] = i                      // reset sequence
  i++
}
Isize = i--:
  
```

FIG. 5D1

SELECT ICLAUSE, JTYPE, SFLDSEQ, TFLDSEQ FROM UnitStatTab WHERE ICLAUSE is  
NOT NULL ORDER BY TFLDSEQ

Complex	String	1	1
Unit	String	2	2
Calls	int	3	3
WrkTime	int	4	4
CumCalls	int	3	5
CumWrkTime	int	4	6

RESULT  
SET

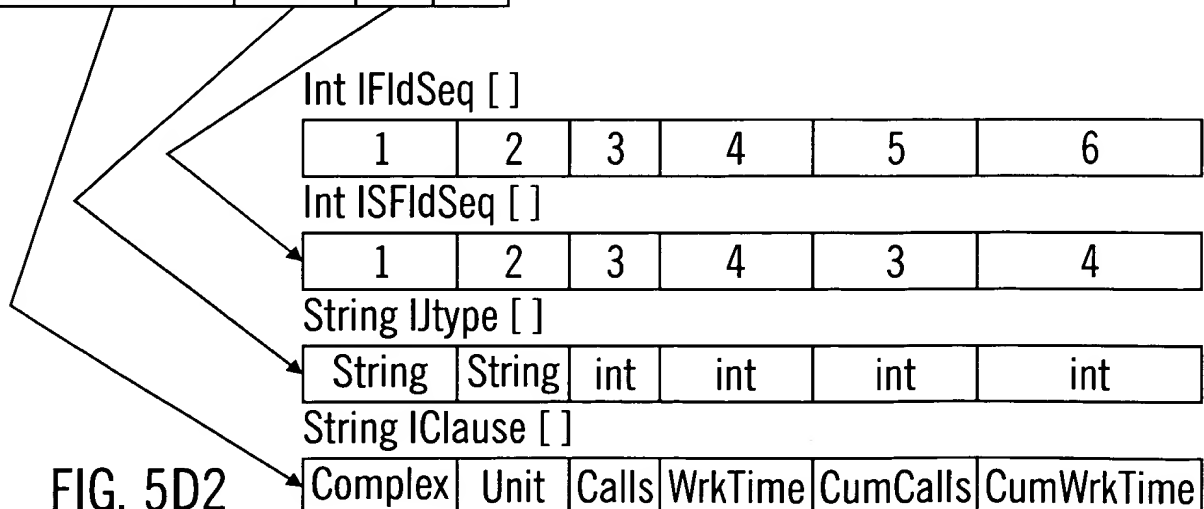


FIG. 5D2

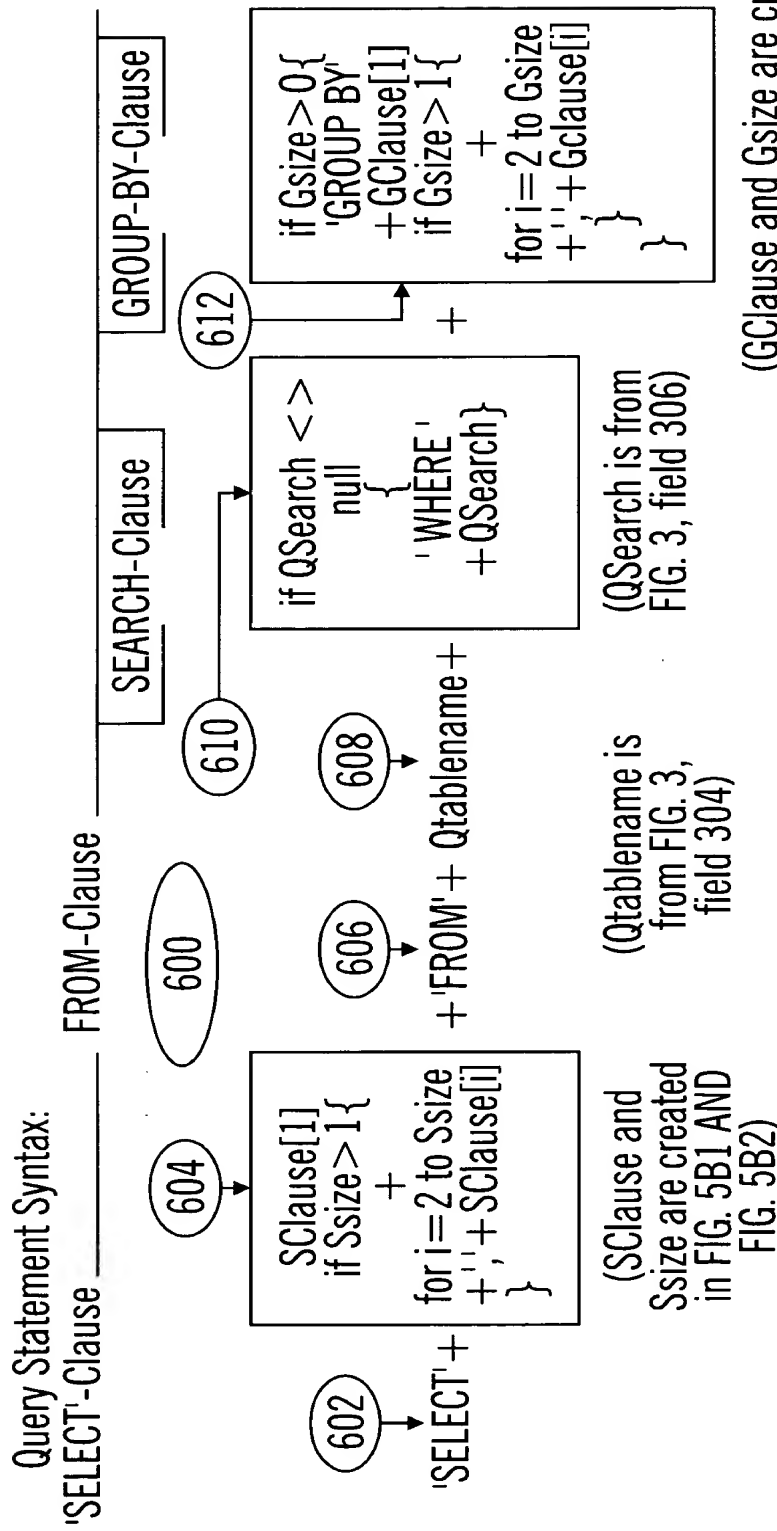


FIG. 6A1

Select Statement String which was built from 600 above.

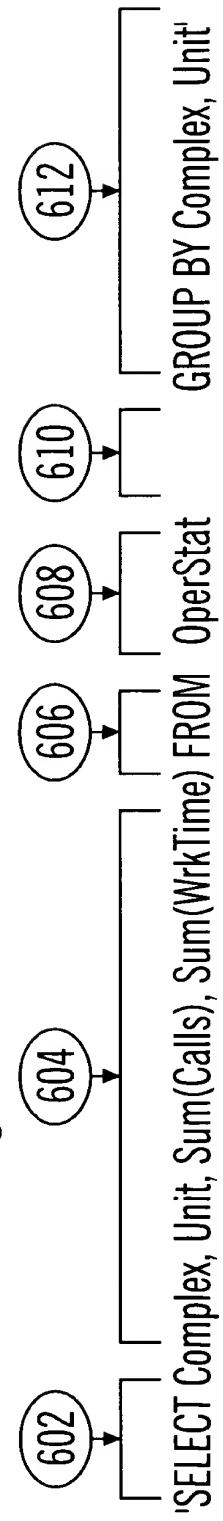


FIG. 6A2



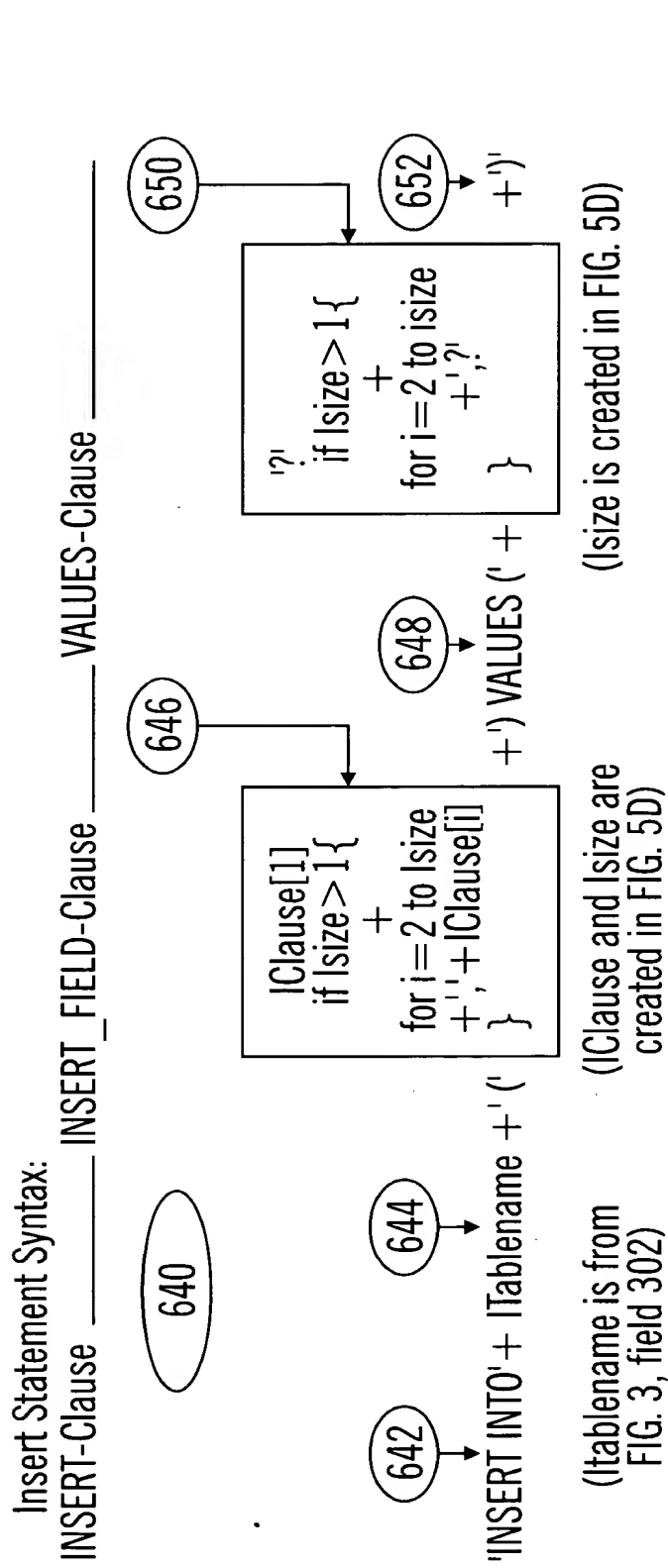


FIG. 6C1

Insert Statement String which was built from 640 above.

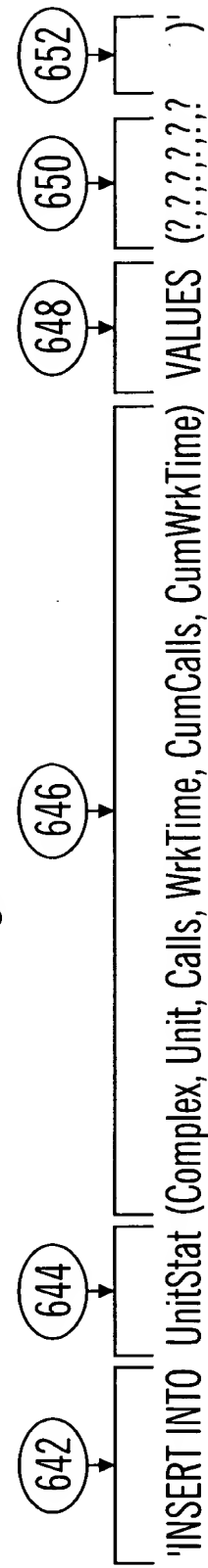


FIG. 6C2

'SELECT Complex, Unit, Sum(Calls), Sum(WrkTime) FROM OperStat  
GROUP BY Complex, Unit'

```

For i=1 to Ssize
{
  j=SfIdSeq[i]
  if SJType[i]='String'
    StringRS[j]=GetString[i]
  else
    IntrRS[j]=Getint[i]
}
    
```

FIG. 7A

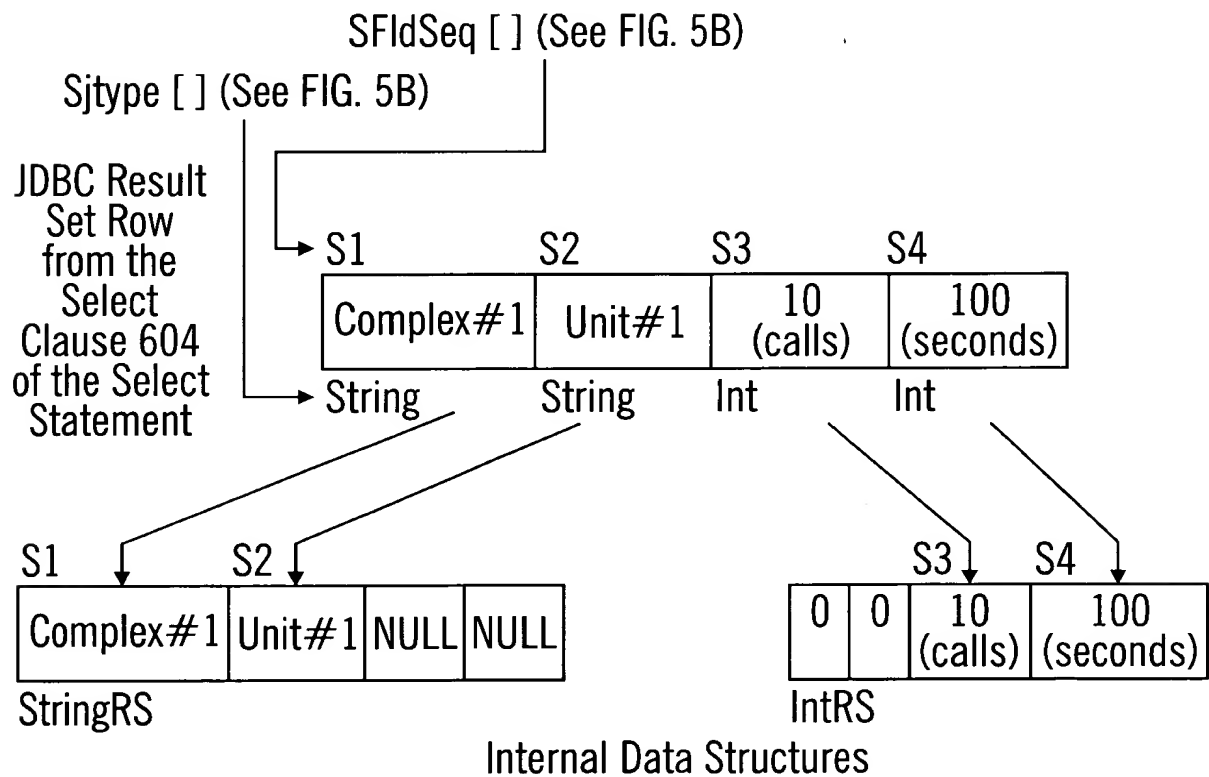


FIG. 7B



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```
'UPDATE UnitStat SET Calls=?, WrkTime=?, CumCalls=CumCalls+?,
                        U1      U2      U3
                        CumWrkTime=CumWrkTime+?
                        U4
WHERE Complex=? AND Unit=?'
           U5      U6
```

```
For i=1 to Usize
{
  j=UFldSeq[i]
  k=USFldSeq[i]
  if UJType[i]='String'
    setString[j]=StringRS[k]
  else
    setint[j]=IntRS[k]
}
```

FIG. 8A1

```
For i=1 to Wsize
{
  j=WFldSeq[i]
  k=WSFldSeq[i]
  if WJType[i]='String'
    setString[j]=StringRS[k]
  else
    setint[j]=IntRS[k]
}
```

FIG. 8A2

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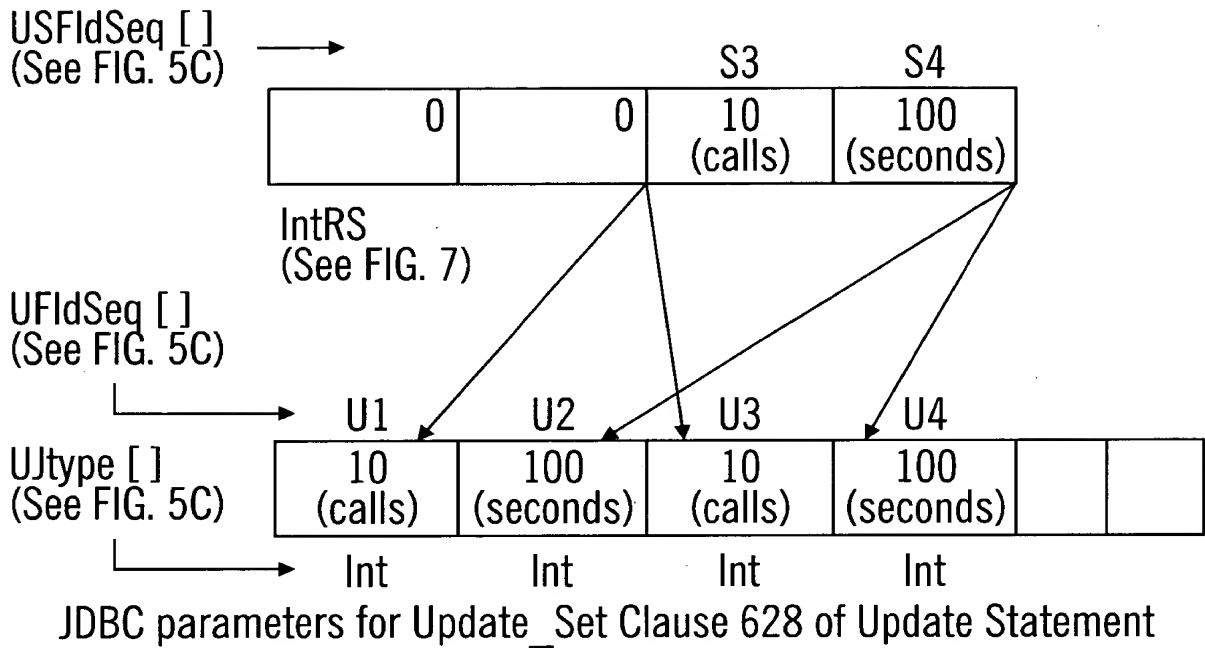


FIG. 8A3

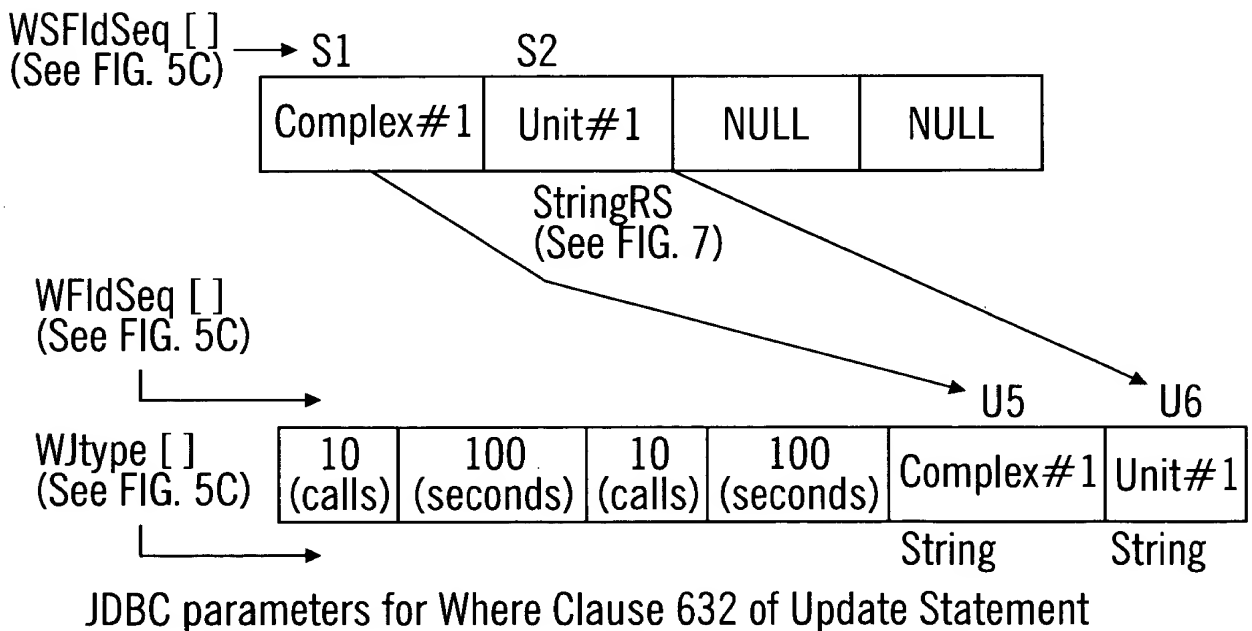


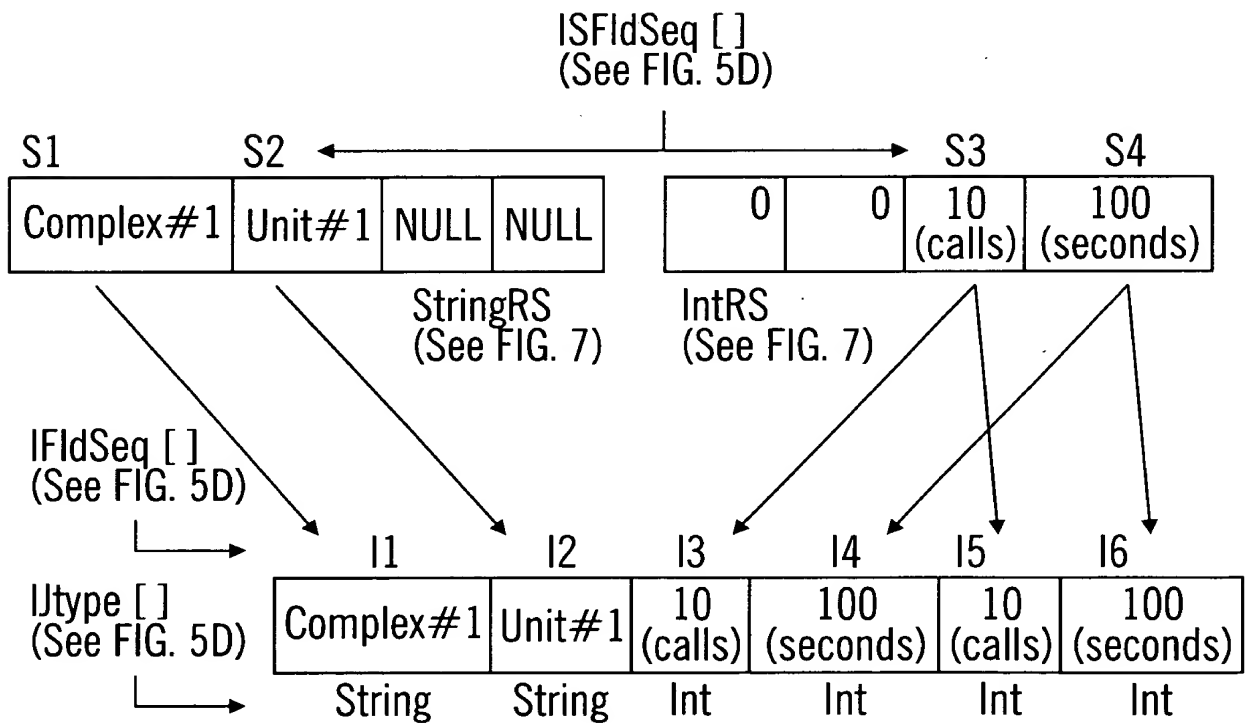
FIG. 8A4

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'INSERT INTO UnitStat(Complex, Unit, Calls, WrkTime, CumCalls, CumWrkTime) VALUES (?,?,?,?,?,?)'  
I1,I2,I3,I4,I5,I6

```
For i=1 to Isize
{
  j=IFldSeq[i]
  k=ISFldSeq[i]
  if IJType[i]='String'
    setString[j]=StringRS[k]
  else
    setint[j]=IntRS[k]
}
```

FIG. 9A



JDBC parameters for Values Clause 650 of Insert Statement

FIG. 9B